

REMARKS

Applicants have reviewed this Application in light of the Election/Restriction Requirement mailed December 9, 2008. Claims 10-13, 25-31, and 33-35 are pending and subject to a restriction and/or election requirement.

The Examiner required an election of the claimed invention between the following groups under 35 U.S.C. § 121:

- Group I. Claims 10-13, drawn to a touch event that lies within two zone pairs with randomly activated light emitting elements, classified in class 345, subclass 173.
- Group II. Claims 25-29, drawn to a touch event that lies within four zone pairs with time-based noise thresholds, classified in class 345, subclass 173.
- Group III. Claims 30-31 and 33-35, drawn to a touch event that lies within two zone pairs with slope calculations, classified in class 345, subclass 173.

Applicants hereby elect without traverse to prosecute Claims 10-13, Group I. Applicants have also added dependent Claims 36-38 that depend from elected independent Claim 10. Claims 25-29 (Group II) and Claims 30-31 and 33-35 (Group III) are hereby cancelled without prejudice or disclaimer. Applicants reserve the right to file one or more continuing applications for the subject matter of cancelled Claims 25-29, 30-31, and 33-35 (as well as Claims 1-9 and 14-24 cancelled in response to a previous election/restriction requirement) at a later date.

Applicants have added new Claims 36-38 that depend from elected independent Claim 10, as shown above. These new claims do not add new matter and should not require a new search.

Applicants reproduce below the pending arguments for regarding the allowability of the pending claims 10-13, taken from Applicants' "Amendment and Request for Continued Examination" filed on August 5, 2008.

Claims 10-13 are Allowable.

Claims 10-13 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 5,355,149 issued to Mark W. Casebolt ("*Casebolt*") in view of U.S. Patent 4,703,316 issued to Terry G. Sherbeck ("*Sherbeck*").

Applicants respectfully submit that *Casebolt* and *Sherbeck*, alone or in combination, do not teach every element of Applicants' Claims 10-13, as discussed below.

Independent Claim 10 recites, in part:

10. A method of determining the location of a touch event within a display area surrounded by a touch frame having a plurality of light emitting elements and a plurality of light receiving elements forming a plurality of triangular zones of light beam paths, each triangular zone being defined by a single light receiving element and a plurality of light emitting elements, the number and positioning of receivers being sufficient to form partially overlapping zone pairs such that the touch event lies within at least two zone pairs, said method comprising:
(emphasis added)

Sherbeck does not teach "each triangular zone being defined by a single light receiving element and a plurality of light emitting elements," as recited in amended Claim 10. Just the opposite, *Sherbeck* teaches triangular zones defined by a single light emitter (one of LEDs D0-D3) and an array of light detectors (one of arrays T_R and T_L). (col. 2, lines 22-37; Figure 1). This difference is meaningful in at least some embodiments or applications. For example, Applicants discuss the advantage of using a reduced number of light emitting detectors in embodiments using relatively expensive IrDA light receivers. (see, e.g., Applicants' Specification, page 7, lines 23-27). *Casebolt* also does not teach these features of amended Claim 10.

For at least these reasons, Applicants respectfully request reconsideration and allowance of Claim 10, as well as Claims 11-13 and 36-38 that depend from Claim 10.

New Claim 36 is Allowable.

New Claim 36 recites:

36. The method of Claim 10, wherein the touch event is fully located within each of at least four triangular zones having four different associated light receiving elements.

Casebolt and *Sherbeck* do not teach this feature. First, the Examiner acknowledges that *Casebolt* does not teach triangular zones. (Final Office Action dated July 24, 2008, p. 11) *Sherbeck* also does not teach this feature of new Claim 36. Even if it were somehow possible to swap *Sherbeck*'s light emitters with *Sherbeck*'s light detectors such that each triangular zone included only a single detector (rather than a single emitter), at least three of the alleged "triangular zones" of *Sherbeck* defined by the Examiner (the alleged second, third, and fourth zones) would include the same detector. Thus, *Sherbeck* could not teach a "the touch event is fully located within each of at least four triangular zones having four different associated light receiving elements," as recited in new Claim 36.

For at least this reason, in addition to depending from Claim 10 shown above to be allowable, Applicants respectfully request allowance of new Claim 36.

New Claim 37 is Allowable.

New Claim 37 recites:

37. The method of Claim 10, wherein:

the touch event lies within (a) a first zone pair including a first triangular zone partially overlapping a second triangular zone, and (b) a second zone pair including a third triangular zone partially overlapping a fourth triangular zone;

the first triangular zone does not share any vertex with the second triangular zone; and

the third triangular zone does not share any vertex with the fourth triangular zone.

Casebolt and *Sherbeck* do not teach these feature. First, the Examiner acknowledges that *Casebolt* does not teach triangular zones. (Final Office Action dated July 24, 2008, p. 11) *Sherbeck* also does not teach these features of new Claim 37. In the July 24, 2008 Final Office Action, the Examiner alleged that *Sherbeck* teaches four “triangular zones” as follows:

- a “first triangular zone” is allegedly taught by Fig. 1, items “first” and “second zone” of *Sherbeck*;
- a “second triangular zone” is allegedly taught by Fig. 1, items “first” and “fourth zone” of *Sherbeck*;
- a “third triangular zone” is allegedly taught by Fig. 1, item “first zone” of *Sherbeck*; and
- a “fourth triangular zone” is allegedly taught by Fig. 1, part of items “first” and “fourth zone” of *Sherbeck*.

Each of these alleged triangular zones of *Sherbeck* share two common vertices, namely the upper left corner (at LED D0) and the upper right corner (at LED D1). Thus, *Sherbeck* cannot meet the elements of new Claim 37: “the first triangular zone does not share any vertex with the second triangular zone” and “the third triangular zone does not share any vertex with the fourth triangular zone.”

For at least this reason, in addition to depending from Claim 10 shown above to be allowable, Applicants respectfully request allowance of new Claim 37.

New Claim 38 is Allowable.

New Claim 38 recites:

38. The method of Claim 10, wherein a particular triangular zone includes (a) a first light receiving element positioned at a first corner of the touchframe and (b) a row of first light emitting elements, each of the first light emitting elements aimed at a midpoint between (a) the first light receiving element and (b) a second light receiving element positioned at a second corner of the touchframe adjacent the first corner.

Thus, Claim 38 recites a triangular zone having a first light receiver at one corner of the touchframe, and multiple light emitters each aimed at a midpoint between the first light receiver and a second light receiver positioned at a second corner of the touchframe adjacent the first corner.

In the July 24, 2008 Final Office Action, the Examiner alleged that “*Sherbeck* teaches of light emitting elements (Fig. 1, item D0) being aimed at a midpoint (Fig. 1, corner where item D2 is located) between two light receiving elements (Fig. 1, items TL0 and TRN).” (Final Office Action, page 4). Under that interpretation of *Sherbeck*, *Sherbeck*’s light emitter D0 is aimed at the lower right corner (near D2), which is the midpoint between the upper right corner (near D1) and lower left corner (near D3), which are opposite corners, not adjacent corners. Thus, even under the Examiner’s interpretation, *Sherbeck* does not teach the elements of new Claim 38 discussed above. *Casebolt* also does not teach these features of new Claim 38.

For at least this reason, in addition to depending from Claim 10 shown above to be allowable, Applicants respectfully request allowance of new Claim 38.

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CONCLUSION

Applicants have made an earnest effort to place this case in condition for allowance in light of the amendments and remarks set forth above. Applicants respectfully request reconsideration and allowance of all pending Claims 10-13 and 36-38.

Applicants believe no fees are due. However, the Commissioner is hereby authorized to charge any fees to Deposit Account No. 50-2148 of Baker Botts L.L.P. in order to effectuate this filing.

If there are any matters concerning this Application that may be cleared up in a telephone conversation, please contact Applicants' attorney at 512.322.2689.

Respectfully submitted,
BAKER BOTTS L.L.P.
Attorney for Applicants



Eric M. Grabski
Reg. No. 51,749

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Baker Botts L.L.P.
1500 San Jacinto Center
98 San Jacinto Blvd
Austin TX 78701-4078
Tel.: 512.322.2689
Fax: 512.322.8383

Send correspondence to:
Customer No. **70905**
Nellcor Puritan Bennett LLC
60 Middletown Avenue
North Haven, CT 06473